CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously presented) A method for providing film grain information comprising the steps of:

characterizing an input image information stream in accordance with an input image stream and a filtered input image stream to provide information indicative of film grain within the image stream, the film grain information including at least one parameter among a set of possible parameters specifying different attributes of the film grain in the image stream;

encoding the film grain information for subsequent transmission.

2. (Previously presented) A method for providing film grain information comprising the steps of:

characterizing an image information stream to provide information indicative of film grain within the image stream, the film grain information including at least one parameter among a set of possible parameters specifying different attributes of the film grain in the image stream; and

encoding the film grain information for subsequent transmission;

wherein the set of parameters includes a plurality of correlation parameters and a plurality of intensity-independent parameters.

3. (Original) The method according to claim 2 wherein at least one correlation parameter defines a spatial correlation in a perceived pattern of film grain.

4. (Original) The method according to claim 2 wherein at least one correlation parameter defines a correlation between color layers.

5. (Original) The method according to claim 2 wherein at least one correlation parameter defines a temporal correlation resulting from previous processing the image sequence.

6. (Original) The method according to claim 2 wherein at least one intensity-independent parameters defines an aspect ratio of the film grain.

7. (Original) The method according to claim 1 wherein at least one parameter defines intensity of a random component of the film grain.

8. (Original) The method according to claim 2 wherein at least one of the intensity-independent parameters defines a color space and blending mode operation used to merge the simulated film grain with the image.

9. (Original) The method according to claim 1 further comprising the step of transmitting the film grain information transmitted out-of band with respected to transmission of image representative information.

10. (Original) The method according to claim 1 further comprising the step of transmitting the film grain information transmitted in band with respected to transmission of image representative information.

11. (Original) The method in accordance with claim 2 where the set of parameters are computed in accordance with a second order auto regression representation of the spatial correlation and a first order regression representation of the cross-color and temporal correlations.

12. (Original) The method according to claim 3 wherein the at least one parameter describing the spatial correlation of the grain is established in accordance with a spatial convolution model.

13. (Original) The method according to claim 3 wherein the at least one parameter describing the spatial correlation of the grain is obtained from cut frequencies of a filter in the Fourier domain.

14 (Original) The method according to claim 1 wherein the encoding step comprises encoding the film grain information according to the ITU-T H.264 video coding standard.

15. (Previously pending) Apparatus for providing film grain, comprising:

first means for characterizing an input image information stream in accordance with an input image stream and a filtered input image stream to provide information of film grain within the image stream, the information including at least one parameter among a set of possible parameters specifying different attributes of the film grain in the image stream;

second means encoding the film grain information for subsequent transmission.

16. (Previously presented) Apparatus for providing film grain, comprising:

first means for characterizing an image information stream to provide information of film grain within the image stream, the information including at least one parameter among a set of possible parameters specifying different attributes of the film grain in the image stream;

second means encoding the film grain information for subsequent transmission; and

wherein the set of parameters includes a plurality of correlation parameters and a plurality of intensity-independent parameters.

17. (Original) The apparatus according to claim 16 wherein at least one correlation parameter defines a spatial correlation in a perceived pattern of film grain.

18. (Original) The apparatus according to claim 16 wherein at least one correlation parameter defines a correlation between color layers.

19. (Original) The apparatus according to claim 16 wherein at least one correlation parameter defines a temporal correlation resulting from previous processing the image sequence.

20. (Original) The apparatus according to claim 16 wherein at least one intensity-independent parameters defines an aspect ratio of the film grain.

21. (Original) The apparatus according to claim 15 wherein at least one parameter defines intensity of a random component of the film grain.

22. (Original) The apparatus according to claim 16 wherein at least one of the intensity-independent parameters defines a color space and blending mode operation used to merge the simulated film grain with the image.

23. (Original) The apparatus in accordance with claim 16 wherein the first mean computes the set of parameters in accordance with a second order auto regression representation of the spatial correlation and a first order regression representation of the cross-color and temporal correlations.

24. (Original) The apparatus according to claim 17 wherein the at least one parameter describing the spatial correlation of the grain is established in accordance with a spatial convolution model.

25. (Previously presented) The apparatus according to claim 17 wherein the at least one parameter describing the spatial correlation of the grain is obtained from cut frequencies of a filter in the Fourier domain.

26. (Original) The apparatus according to claim 15 wherein second means encodes the film grain information according to the ITU-T H.264 video coding standard.

27. (Previously presented) A method for providing film grain information comprising the steps of:

characterizing an image information stream to provide information indicative of film grain within the image stream, the film grain information identifying a model specifying how to simulate film grain and at least one parameter among a set of possible parameters in the film grain information specifying different attributes of the film grain in the image stream for use with said model; and

encoding the film grain information separately from encoding the image information for subsequent transmission together to enable simulation of film grain in the image stream upon decoding using the film grain information upon decoding.

28. (Previously presented) Apparatus for providing film grain, comprising:

first means for characterizing an image information stream prior to encoding to provide information of film grain within the image stream, the information identifying a model specifying how to simulate film grain and at least one parameter among a set of possible parameters in the film grain information specifying different attributes of the film grain in the image stream, for use with said identified model, and

second means encoding the film grain information separately from encoding the image information for subsequent transmission together to enable simulation of film grain in the image stream upon decoding using the film grain information upon decoding.